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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR Section122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided the laboratory institutes a Quality Assurance-Quality Control Program. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. All analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. If the facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall forward a letter to the Regional Water Board indicating that there has been no activity during the required reporting period.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
001	M-001	Effluent from ARGET.
002	M-002	Effluent from GET E/F.
003	M-003	Effluent from GET Interim GET H.
004	M-004	Effluent from GET H.
005	M-005	Effluent from GET J.
006	M-006	Effluent from Interim GET K.
007	M-007	Effluent from GET K.
008	M-008	Effluent from GET L.
009	M-009	Effluent from GET L1.
010	M-010	Effluent from Sailor Bar Park Well System.
011	M-011	Effluent from Chettenham Well System.
012	M-012	Effluent from Low-threat System.
	MINFA	Influent to ARGET
	MINFB	Influent to GET E/F
	MINFC	Influent to Interim GET H
	MINFD	Influent to GET H
	MINFE	Influent to GET J
	MINFF	Influent to Interim GET K
	MINFG	Influent to GET K
	MINFH	Influent to GET L
	MINFI	Influent to GET L1
	MINFJ	Influent to Sailor Bar Park Well System
	MINFK	Influent to Chettenham Well System
	R-001 and R-002	R-001 (upstream) and R-002 (downstream) on American River from discharge of Buffalo Creek into American River at Latitude 38º, 38', 01" N, Longitude 121º, 16', 05" W. Outfall 001 is representative of ARGET, GET E/F and GET J discharges (Discharges 001, 002, and 005, respectively.
	R-003 and R-004	R-003 (upstream) and R-004 (downstream) on American River from discharge water from GET L1 (Discharge 009) into American River at Latitude 38º, 37', 32" N, Longitude 121º, 18', 15" W.
	R-005 and R-006	R-005 (upstream) and R-006 (downstream) on American River from discharge water from GET L (Discharge 008) into American River at Latitude 38º, 36', 45" N, Longitude 121º, 18', 20" W.
	R-006 and R-007	R-006 (upstream) and R-007 (downstream) on American River from discharge water from long term GET K (Discharge 007) into American River at Latitude 38º, 36', 36" N, Longitude 121º, 18', 24" W.
	R-008 and R-009	R-008 (upstream) and R-009 (downstream) on American River from discharge water from Interim GET K (Discharge 006) into American River at Latitude 38º, 36', 05" N, Longitude 121º, 18', 57" W.
	R-010 and R-011	R-010 (upstream) and R-011 (downstream) on American River from discharge from Chettenham Well (Discharge 011) into American River via the Boyd Station Channel at Latitude 38º, 34', 43" N, Longitude 121º, 19', 37" W. May receive water from long term GET H (Discharge 004) in the future

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
	R-012 and R-013	R-012 (upstream) and R-013 (downstream) on Morrison Creek from discharge of drainage ditch to Morrison Creek at Latitude 38º, 31', 53" N, Longitude 121º, 19', 36" W. Outfall 006 represents discharge from interim GET H (Discharge 003 and long term GET H (Discharge 004).
	R-014 and R-015	R-014 (upstream) and R-015 (downstream) on American River from a potential discharge from various GETs into American River via pipeline at Latitude 38º, 38', 06" N, Longitude 121º, 13', 13" W.
	R-016 and R-017	R-016 (upstream) and R-017 (downstream) on Alder Creek from a potential discharge water from various GETs via pipeline into Alder Creek at American River at Latitude 38º, XX', XX" N, Longitude 121º, XX', XX" W.

III. INFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor **MINFA, MINFB, and MINFJ** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

B. The Discharger shall monitor **MINFC, MINFD and MINFK** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

C. The Discharger shall monitor **MINFE** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

D. The Discharger shall monitor **MINFF, MINFG, MINFH and MINFI** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001 through M-012

1. The Discharger shall monitor wastewater discharged at **M-001** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	^{o}F(^{o}C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[8]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
9. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-002** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	^{o}F(^{o}C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
PROWL	µg/L	Grab	Monthly	[8]
Formaldehyde	µg/L	Grab	Monthly	[9]
Glyoxal	µg/L	Grab	Monthly	[10]
Acetaldehyde	µg/L	Grab	Monthly	[11]
Acute Toxicity	% Survival	Grab	Quarterly	[12]

3. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. PROWL analysis with a practical quanitation level no greater than 10 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
9. Formaldehyde analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
10. Glyoxal analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
11. Acetaldehyde analysis with a practical quanitation level no greater than 1µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
12. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
13. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-003 and M-004** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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3. The Discharger shall monitor wastewater discharged at **M-005** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[8]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]
Flow[6]	mgd	Measure	Continuous	--
Temperature[6]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[6]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[7]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. Tst Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Field Measurements.
7. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
8. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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4. The Discharger shall monitor wastewater discharged at **M-006, M-007, M-008 and M-009** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	^{o}F(^{o}C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-010** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
1,4-Dioxane	µg/L	Grab	Monthly	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Flow[4]	mgd	Measure	Continuous	--
Temperature[4]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[	mg/L	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-011** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Weekly	[2]
Flow[3]	mgd	Measure	Continuous	--
Temperature[3]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Electrical Conductivity[3]	µmhos/cm	Grab	Monthly	--
pH[3]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Field Measurements.
4. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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6. The Discharger shall monitor wastewater discharged at **M-012** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Once per 10,000 gallons purge water for Monitor Well Purge Beginning, middle and end of Aquifer Test	[1]
N-nitrosodimethylamine	µg/L	Grab	Beginning, middle and end of Aquifer Test	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Perchlorate	µg/L	Grab	Beginning, middle and end of Aquifer Test	[3]
Flow[4]	gallons	Measure	Continuous	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Field Measurements.

7. If the discharge is intermittent rather than continuous, then on the first day of each such discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequency of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

8. If no discharge occurs at a particular discharge point during the monitoring period, then samples need not be collected for that particular discharge. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly acute toxicity testing, concurrent with effluent sampling for volatile organics and copper.

2. *Sample Types* – Effluent samples shall be grab samples taken at M-001, M-002, M-003, M-004, M-005, M-006, M-007, M-008 and M-009.

3. *Test Species* – Test species shall be larval stage (0 to 14 days old) fathead minnows (Pimephales promelas).

4. *Methods* – The acute bioassay tests samples shall be conducted in accordance with EPA-821-R-02-012, Fifth Edition, or later amendment with Executive Officer approval. Temperature and pH shall be recorded at the time of bioassay sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 3 business days following notification of test failure.

B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly chronic toxicity testing for the first 4 quarters and annually thereafter.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at effluent monitoring locations M-001 and M-002. The receiving water control shall be a grab sample obtained from the R-001 sampling location.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures either lethal or sublethal (e.g. reduced growth, reproduction) effects to experimental test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

    - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
    - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
    - The green alga, *Selenastrum capricornutum* (growth test).

5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002, or later amendment with Executive Officer approval.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – The chronic toxicity testing shall be performed using the 100% effluent, 25% effluent/75% R-001, 10% effluent/90% R-001 and 5%effluent/95% R-001.

8. *Test Failure* – If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, and its subsequent amendments or revisions, the Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of test failure.

C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Board within 24-hrs after the receipt of the results of an exceedance of a toxicity trigger during regular or accelerated monitoring.

D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

    a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50 100/EC_{25}, 100/IC_{25}, and 100/IC_{50}, as appropriate.

    b. The statistical methods used to calculate endpoints;

    c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

    d. The dates of sample collection and initiation of each toxicity test; and

    e. The results compared to the numeric toxicity trigger.

    Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports, reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

    a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

    b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

    c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring – American River, Morrison Creek and Alder Creek

1. The Discharger shall monitor the American River at R-001, R-002, R-003, R-004, R-005, R-006, R-007, R-008, R-009, R-010, and R-011, R-014, R-015 and Alder Creek at R-016 and R-017 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[6]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethlyamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Temperature[5]	$^{o}F(^{o}C)$	Grab	Monthly	--
Dissolved Oxygen[5]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-00l and R-016. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

2. The Discharger shall monitor Morrison Creek R-012 and R-013 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Total Copper	µg/L	Grab	Monthly	[3]
Temperature[4]	$^{o}F(^{o}C)$	Grab	Monthly	--
Dissolved Oxygen[4]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-012 and R-013. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

3. If no discharge occurs at a particular discharge point during the monitoring period, then receiving water samples associated with that discharge need not be collected for that monitoring period. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

B. Groundwater Monitoring – Not Applicable

IX. OTHER MONITORING REQUIREMENTS

A. State Implementation Plan Monitoring

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known

as the State Implementation Policy or SIP). The SIP states that the Regional Water Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

Accordingly, the Regional Water Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger monitor effluent and analyze the sample for all SIP constituents **one time at least 180 days but no more than 365 days prior to expiration of this Order.** The Discharger must analyze pH and hardness of the effluent at the same time as priority pollutant metals.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

3. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.

4. **Within 24-hours** after the Discharger has received information that its discharge exceeds effluent limitations, the Discharger shall notify the Board, City of Sacramento Department of Utilities, and Carmichael Water District. Arden-Cordova Water Service shall be notified if the discharge that is in violation is to Lake Natoma.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly, quarterly, and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other

test methods specified in this Order. Monthly reports shall be due on the 15th day of the second month following the end of each calendar month.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	Fifteenth day of second calendar month following month of sampling
1 / week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Fifteenth day of second calendar month following month of sampling
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	Fifteenth day of second calendar month following month of sampling
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 15 August 15 November 15 February 15
1/year	January 1 following (or on) permit effective date	January 1 through December 31	February 15

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Submit monitoring reports to:
Central Valley Regional Water Quality Control Board

11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

C. Discharge Monitoring Reports (DMRs)

1. When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self generated or modified cannot be accepted.

D. Other Reports

1. **Annual Solids Disposal Report.** An annual solids disposal report shall be submitted with annual self-monitoring reports. The report shall describe the annual volume of solids, including spent ion exchange resin and granular activated carbon, generated by the Facility and specify the disposal practices.